

3.3 AIR QUALITY

Electrical transmission line alternatives are being considered to alleviate transmission line constraints for the transmission of electrical power into Imperial County. The construction of these transmission line alternatives may cause short and/or long term impacts to local air quality. The impacts to regional air quality are assessed in the following section.

3.3.1 AFFECTED ENVIRONMENT

The Proposed Project and Alternatives A and C, described in Section 1.0 of this EIR, would cross approximately 118-linear miles of Eastern Riverside County while Alternative B would traverse approximately 79-linear miles and extend from Eastern Riverside County into Imperial County. Since the impacts to air quality from the project would be both regional and local in nature, this section examines the general climate and air quality of unique sections within the project area. Due to the remote and rugged nature of much of the project area and the lack of emission sources and population centers, there are few air quality monitoring stations in the project region. The data used in the following sections is derived from available data sources that best represent different geographic portions of the project. Figure ES-1 presents the project area.

3.3.1.1 Regional Climate

The Proposed Project is located in the Mojave Desert region of Southern California. Elevations within the project area range from 94 to 1,972 feet above sea level for the Proposed Project, and Alternatives A and C, and –30 to 1,100 feet above sea level for Alternative B. Hot summers, mild winters, infrequent rainfall, variable winds, and very low humidity characterize the climate of the area encompassed by the project area. The average maximum temperatures in the project region vary from 67 °F in winter to 109 °F in summer. Minimum temperatures in the project area rarely drop below freezing.

Most rainfall in the area occurs within a three month winter season between December and February as Pacific storms move eastward. Typical rainfall in the area totals approximately 2.5 to 5.5 inches with over half of the annual rainfall falling between November and February. By April, a strong high-pressure ridge usually begins to build over the Pacific Ocean and storm activity almost entirely ceases until late fall. Between April and September, dry, hot weather predominates. Occasional heavy thunderstorms, however, may bring brief heavy rains to the project area between July and September. Table 3.3-1 presents the average monthly temperature, rain, and wind summaries for various portions of the project area.

Wind patterns in the project area are influenced by dry desert climate, daily heat patterns, and the northwest/southeast orientations of the Coachella, Imperial, and Chuckwalla Valleys. The prevailing winds in the Coachella Valley and Imperial Valley portions of the Proposed Project and alternatives are north to northwesterly, respectively, for most months except when summer conditions generate winds blow from the south. Table 3.3-1 data shows, however, that the conditions that create southerly wind in the summer noticeably lose influence in the more northern locations in the Coachella Valley.

Table 3.3-1
Desert Southwest Project Monthly Climate Summary for Project Area
Period of Record: 1951 through 2001 Temperature/Precipitation: 1981 through 2001 Wind Data

Parameter	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
Blythe Airport, California													
Avg. Maximum Temp. (°F)	67.5	72.8	79.3	87.4	95.5	103.8	108.4	106.7	101.9	90.5	76.4	67.6	88.1
Avg. Minimum Temp. (°F)	38.1	42.4	46.9	53.2	60.4	67.5	76.2	75.8	68.1	56.0	44.1	38.4	55.6
Avg. Wind Speed/Direction (mph)	4.51 N	4.80 N	5.07 N	5.29 SW	5.11 SW	5.11 SW	5.45 S	4.94 S	4.13 S	3.81 N	3.95 N	4.13 N	4.69 N
Avg. Total Precipitation (inches)	0.47	0.46	0.36	0.13	0.03	0.03	0.18	0.72	0.42	0.27	0.25	0.53	3.86
Yuma, Arizona													
Avg. Maximum Temp. (°F)	68.8	74.3	79.2	86.8	94.0	103.4	107.0	105.8	101.6	91.0	77.7	68.7	88.2
Avg. Minimum Temp. (°F)	44.2	47.0	51.0	57.0	63.8	72.1	80.4	79.9	73.8	62.4	51.0	44.4	60.6
Avg. Wind Speed/Direction (mph)	3.64 NE	4.09 SE	4.26 SE	4.63 SE	4.52 S	4.53 S	4.80 S	4.71 S	4.05 SE	3.71 SE	3.58 NE	3.76 NE	4.19 SE
Avg. Total Precipitation (inches)	0.39	0.22	0.23	0.11	0.05	0.01	0.22	0.51	0.27	0.29	0.19	0.43	2.91
Brawley, California													
Avg. Maximum Temp. (°F)	69.3	73.7	79.1	86.4	94.2	103.0	107.7	106.5	102.4	91.7	78.8	70.1	88.6
Avg. Minimum Temp. (°F)	39.1	43.2	47.7	53.3	59.9	66.7	75.1	75.9	69.7	58.3	45.9	39.5	56.2
Avg. Wind Speed/Direction (mph)	2.48 NW	3.87 NW	4.71 NW	5.18 NW	4.35 NW	4.12 SE	3.51 SE	3.63 SE	3.70 NW	3.78 NW	3.27 NW	2.63 NW	3.77 NW
Avg. Total Precipitation (inches)	0.40	0.36	0.26	0.08	0.03	0.01	0.06	0.34	0.30	0.23	0.16	0.45	2.67
Palm Springs, California													
Avg. Maximum Temp. (°F)	69.4	73.6	79.2	86.9	94.2	103.0	108.3	106.8	101.7	91.5	78.8	70.2	88.6
Avg. Minimum Temp. (°F)	41.8	45.1	48.3	53.8	59.8	66.3	74.5	73.8	67.5	58.9	48.5	41.9	56.7
Avg. Wind Speed/Direction (mph)	3.94 N	4.60 N	5.53 N	6.62 N	7.12 N	6.66 N	5.90 N	5.47 SE	5.24 N	4.62 N	4.04 N	3.65 N	5.28 N
Avg. Total Precipitation (inches)	1.16	1.00	0.61	0.17	0.05	0.07	0.21	0.31	0.36	0.22	0.46	0.95	5.57

Source: WRCC 2002.

In the Colorado River Region, typical of the eastern portion of the project area, the winds blow consistently from the north in the winter and the south in the summer. Wind speeds consistently average between three to five mph in the project area. Table 3.3-1 presents the average monthly wind velocities and directions in the various portions of the project area.

Meteorological conditions that exist in the area during the summer portions (light winds and shallow vertical mixing) and topographical features (surrounding mountain ranges) hinder the dispersal of air pollutants in the project area. The potential for elevated air pollution in lower elevations within the Mojave Desert is high due to frequent temperature inversions which can trap air pollutants near the ground, thereby hindering dispersion.

Evapotranspiration rates in the project area, which is defined as the evaporative water loss from both soil and vegetation, are exceedingly high due to the lack of vegetative cover and extreme sustained temperatures. The average evapotranspiration rates in the project area are among the highest in the United States (U.S.) and average as high as 110 inches per year as measured in Yuma, Arizona (WRCC 2002).

3.3.1.2 Existing Air Quality

National Ambient Air Quality Standards (NAAQS) have been established by the Federal Clean Air Act (CAA) and represent a maximum, or “threshold”, concentration for many air pollutants. NAAQS represent the concentration of a pollutant above which humans or the environment may experience some adverse effects. NAAQS are based on epidemiological, health, and environmental research conducted by the U.S. Environmental Protection Agency (U.S. EPA). NAAQS are reviewed and updated periodically to incorporate existing knowledge and science for individual pollutants. The U.S. EPA has established two types of NAAQS: primary standards which are protective of human health, and secondary standards which are protective of human welfare.

Current primary NAAQS have been established for what is known as “criteria pollutants” which include ozone, PM₁₀, PM_{2.5} (particulate matter), carbon monoxide (CO), nitrogen dioxide (NO₂), lead, and sulfur dioxide (SO₂). Recently, a new 8-hour standard for ozone and new standards for fine particulate matter (particulate matter with aerodynamic diameter of 2.5 microns or less, or PM_{2.5}) have been adopted, however specific regulations are not yet in place.

The California Air Resources Board (CARB) has adopted additional standards, comparable to the NAAQS, known as the California Ambient Air Quality Standards (CAAQS). CAAQS are more restrictive than NAAQS, based on more conservative risk assumptions. A comparison of federal and state air quality standards is presented in Table 3.3-2.

Air quality in California is evaluated using air quality data collected from monitoring stations located throughout California and comparing against NAAQS and CAAQS values. The data are used to evaluate the nature and severity of the air quality problems in the state and to assess air quality issues. Ambient air monitoring stations are concentrated in populous regions in the state, and consequently, there are few active monitoring sites in the project area. Ambient air quality monitoring data is collected by CARB, the U.S. Park Service, local air pollution control districts, and private firms. Figure 3.3-1 presents the ambient air monitoring stations in the region of the project area.

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Figure 3.3-1 Air Basins/Districts

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Based on the information presented in Table 3.3-3 through Table 3.3-5, it is clear that the existing air quality is generally impaired in the project area relative to California standards for both ozone and PM₁₀. Ozone is a particular problem in the lower elevations of the western and southern portions of the project area, which would be located in the Coachella Valley. Ozone formation in this region is influenced by regional meteorological conditions that transport significant amounts of ozone precursors into the region from the Los Angeles Basin. Ambient PM₁₀ concentrations also exceed both federal and state standards in the Coachella Valley portions of the project area and are likely due to high levels of naturally produced particulate dust matter combined with regional man-made emissions. Based on the data from Palm Springs and in some part to the data from El Centro, the CO and NO₂ ambient levels do not exceed federal or state standards.

3.3.1.2.1 Ambient Air Quality – Western Region of the Project Area

There are only two active monitoring stations within 10 miles of the western portion of the Proposed Project; they are located at Palm Springs and Indio. Both of these stations are located at the far western portion of the project area and only the Palm Springs station collects data for all criteria pollutants. In the eastern portion of the project area, the closest active air monitoring station is located approximately 35 miles to the south in Yuma, Arizona.

The Palm Springs ambient air monitoring station is located approximately 5 miles from the Devers Substation. As such, the ambient air quality of the northwestern portion of the Proposed Project is well represented by the Palm Springs air quality data due to its proximity and geophysical and meteorological similarity with the Devers Substation. Table 3.3-3 presents the air monitoring data for the previous five years in the northwestern portion of the project area.

3.3.1.2.2 Ambient Air Quality – Eastern Region of the Project Area

An ozone monitoring station was recently installed in the City of Blythe, and 1-hour and 8-hour ozone data are available for 2003. The next nearest ambient air quality monitoring station is located in Yuma, Arizona, approximately 35 miles south of the eastern terminus of the Proposed Project and is also located adjacent to the Colorado River. As such, the ambient air quality of the eastern portion of the Proposed Project and alternatives is best represented by the Blythe and Yuma air quality data due to their proximity and geophysical and meteorological similarity with the Blythe Substation.

3.3.1.2.3 Ambient Air Quality – Southern Region of the Project Area

There is only one active monitoring station within 10 miles of Alternative B at Niland. The Niland monitoring station, however, only collects Ozone and particulate data. There are no active ambient air quality monitoring stations that monitor for all criteria pollutants within 35 miles of Alternative B. The air quality issues of the region, however, are related to ozone and particulate matter; therefore, the Niland data presents data for the relevant air issues of the southern portion of the project area.

Table 3.3-3
Desert Southwest Project Historic Ambient Air Quality Data
Western Region – Palm Springs, CA

Pollutant	1999	2000	2001	2002	2003
Ozone					
Maximum 1-hr (ppm)	0.126	0.124	0.137	0.136	0.141
Days over State Standard – 1-hr (0.09 ppm)	27	40	53	49	54
Days over Federal Standard – 1-hr (0.12 ppm)	1	0	6	2	4
% Observation ^a 1-hr	96	100	100	99	99
Maximum 8-hr (ppm)	0.104	0.104	0.113	0.124	0.110
Days over Federal Standard – 8-hr (0.08 ppm)	20	28	39	46	43
% Observation ^a 8-hr	96	100	100	99	99
CO					
Maximum 8-hr (ppm)	1.75	1.59	1.60	1.14	1.29
Days over State Standard – 8 hr/1 hr (9.0/20 ppm)	0/0	0/0	0/0	0/0	0/0
Days over Federal Standard – 8 hr/1 hr (9/35 ppm)	0/0	0/0	0/0	0/0	0/0
% Observation ^a 8-hr	98	99	99	95	89
NO₂					
Maximum 1-hr (ppm)	0.068	0.064	0.081	0.068	0.069
Days over State Standard – 1 hr (0.25 ppm)	0	0	0	0	0
Annual Average (ppm)	0.018	0.016	0.017	0.016	0.016
% Observation ^a 1-hr	100	100	100	95	97
PM₁₀					
Maximum 24-hr (µg/m ³)	104.0	44.0	432.0	75.0	108.0
Days over State Standard – 24-hr (50 µg/m ³)	3	0	2	3	4
Days over Federal Standard – 24-hr (150 µg/m ³)	0	0	1	0	0
% Observation ^a 24-hr	94	90	77	97	100
PM_{2.5}					
Maximum 24-hr (µg/m ³)	ND	28.5	44.7	42.3	21.2
3-year Average – 98 th Percentile	ND	ND	ND	26	25
Days over Federal Standard – 24-hr (65 µg/m ³)	--	0	0	0	0

Source: CARB 2004a.

^a Completeness of data set for given year.

As a result, the best air monitoring station data, relative to the southern portion of the project area, are data from the El Centro monitoring station, which is located approximately 25 miles south of the southern terminus of Alternative B at the Midway Substation. Even at El Centro, however, the data coverage is less than 50 percent in some cases. Table 3.3-4 presents the air monitoring data for the previous five years in the Southern portion of the project area.

Table 3.3-4
Desert Southwest Project Historic Ambient Air Quality Data
Southern Region – El Centro, CA

Pollutant	1999	2000	2001	2002	2003
Ozone					
Maximum 1-hr (ppm)	0.140	ND	0.135	0.122	0.130
Days over State Standard – 1-hr (0.09 ppm)	9	ND	13	19	19
Days over Federal Standard – 1-hr (0.12 ppm)	2	--	2	0	2
CO					
Maximum 8-hr (ppm)	ND	ND	7.14	2.93	2.55
Days over State Standard – 8-hr/1-hr (9.0/20 ppm)	--	--	0	0	0

Table 3.3-4
Desert Southwest Project Historic Ambient Air Quality Data
Southern Region – El Centro, CA

Pollutant	1999	2000	2001	2002	2003
Days over Federal Standard – 8-hr/1-hr (9/35 ppm)	--	--	0	0	0
% Observation ^a 8-hr	ND	ND	76	98	51
PM₁₀					
Maximum 24-hr ($\mu\text{g}/\text{m}^3$)	92.0	180.0	383.0	263.0	180.0
Days over State Standard – 24-hr ($50 \mu\text{g}/\text{m}^3$)	18	19	18	18	25
Days over Federal Standard – 24-hr ($150 \mu\text{g}/\text{m}^3$)	0	1	1	1	1
% Observation ^a 24-hr	93	95	87	96	93
PM_{2.5}					
Maximum 24-hr ($\mu\text{g}/\text{m}^3$)	52.5	55.6	23.5	28.9	26.0
3-year Average – 98 th Percentile	ND	ND	ND	ND	21.0
Days over Federal Standard – 24-hr ($65 \mu\text{g}/\text{m}^3$)	0	0	0	0	0

ND = No data available.
Source: CARB 2004a.

3.3.2 APPLICABLE REGULATIONS, PLANS, AND POLICIES

CAA (42 U.S.C. § 7401) is the foundation for which all federal, state, and district air quality rules and regulations are based. The CAA sets a framework for air regulation, but overall implementation and control is delegated to each state that meets the minimum standards. State and federal air quality rules and regulations are implemented through local air management agencies with broad authority.

The Proposed Project and alternatives would be responsible to meet District rules and requirements of the Mojave Desert Air Quality Management District (MDAQMD), South Coast Air Quality Management District (SCAQMD), and/or Imperial County Air Pollution Control District (ICAPCD), depending on the alternative selected. Each district has the responsibility to promulgate local rules and regulation, monitor air pollution, issue air permits, control the emissions of air pollutants within its jurisdiction, and prevent adverse human and environmental impacts.

3.3.2.1 Air Basins and Air Pollution Control Districts

As presented in Figure 3.3-2, the Proposed Project and alternatives would be situated within several air basins, local air pollution control districts, and counties. The Proposed Project, and Alternatives A and C would traverse the Mojave Desert Air Basin (MDAB) and the Salton Sea Air Basin (SSAB). Alternative B would be almost entirely located within the SSAB, with a small portion in the MDAB. The Proposed Project and Alternatives A and C would be located within the jurisdictional boundaries of the MDAQMD and the SCAQMD while Alternative B would be subject to MDAQMD and ICAPCD jurisdiction.

3.3.2.2 Compliance with Air Quality Standards

As discussed, the ambient concentrations of criteria pollutants are officially monitored at locations throughout California (and throughout the U.S.) and the data are reviewed by U.S. EPA and CARB. If monitoring data at a given location indicate that the concentrations of any criteria pollutant exceeds either the NAAQS or the CAAQS for more than what the standard allows, then the area in which the monitoring location is located would be designated “non-attainment” for that pollutant. Federal and state air quality standards are set by U.S. EPA and CARB, respectively. California standards are more restrictive; as such, there are generally more state than federal areas designated as non-attainment. A non-attainment designation leads to more restrictive rules and regulations governing the emissions for the pollutant in which the NAAQS or CAAQS were exceeded. The majority of regulations that an industry is subject to depends on whether it is located in an attainment or non-attainment area. Because area designation is based on a pollutant-by-pollutant analysis, it is not uncommon for an area to be in attainment for some pollutants and non-attainment for others. Those areas not designated as non-attainment for specific criteria pollutants are either classified as attainment or unclassified, and therefore are treated as attainment areas. Table 3.3-5 presents the federal and state designations for each of the areas for which the project area is associated.

Significant portions of the Proposed Project and alternatives are located in areas that are designated by CARB and U.S. EPA as non-attainment for both ozone and PM₁₀. As such, the Proposed Project would face tightened emission restrictions for these compounds by the local air pollution control districts.

There are segments of the Proposed Project and alternatives that are located within regions designated as attainment or unclassified under federal standards, however, as they are not considered to meet state standards, are designated by CARB as non-attainment. The federal designations, however, do not supercede the California designations and, as such, the local air districts would implement the tighter restrictions mandated by the CARB designation.

3.3.3 ENVIRONMENTAL CONSEQUENCES

3.3.3.1 Permits and Authorizations

Construction and operation of the Proposed Project or alternatives would not require any air quality permits from SCAQMD or MDAQMD, but permits to operate (PTO) would be required by ICAPCD for each mobile air pollutant source that cannot move under its own power, such as air compressors.

Figure 3.3-2 Air Monitoring Locations

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**Table 3.3-5
Federal and California State Attainment Designations
For Proposed Project and Alternative Areas**

Pollutants	Salton Sea Air Basin				Mojave Desert Air Basin	
	Imperial County ICAPCD		Western Riverside County SCAQMD		Eastern Riverside County MDAQMD	
	State	Federal	State	Federal	State	Federal
Ozone	Non-attainment	Non-attainment, Section 185A (Formerly called "Transitional")	Non-attainment	U/A – East Non-attainment – West, Severe-17	Non-attainment	U/A
CO	Unclassified	U/A	Attainment	U/A	Unclassified	U/A
PM ₁₀	Non-attainment	U/A – East Non-attainment – West, Moderate	Non-attainment	Non-attainment, Serious	Non-attainment	U/A
SO ₂	Attainment	--	Attainment	--	Attainment	--
H ₂ S	Unclassified	--	Unclassified	--	Unclassified	--

U/A Unclassified/Attainment

-- No federal standard

Sources: CARB 2004b for state designations; EPA 2004b for federal designations.

3.3.3.2 Potential Types of Impacts and Significance Criteria

Air pollutant emissions from the project area would exist solely as short-term emissions during construction. The operation of electrical transmission lines does not produce air pollutant emissions. General maintenance activities related to transmission line operation are minimal and, as such, would exert negligible overall impact to air quality. The principal sources of emissions of the Proposed Project would occur during construction. Construction emissions would include the exhaust from construction equipment (including vehicles transporting personnel, equipment, and supplies); fugitive dust and PM₁₀ from grading, earth moving, and equipment traveling on paved and unpaved roads; and construction crew vehicle traffic. The impacts to local air quality in the project area would be restricted to those during the course of construction, and the following impact analysis focuses on these emissions.

3.3.3.3 Significance Criteria

Air impacts from the construction of the Proposed Project or alternatives would be considered significant under NEPA or CEQA if any of the following conditions were met:

- Cause or contribute to any new violation of NAAQS or CAAQS in the project area;
- Interfere with the maintenance or attainment of NAAQS or CAAQS;
- Increase the frequency or severity of any existing violations of NAAQS or CAAQS;
- Delay the timely attainment of any standard, interim emission reduction, or other air quality milestone promulgated by the U.S.EPA, CARB, or local air quality agency.

Under state and federal rules and regulations, emission sources are exempt from conformity if the Proposed Project emission rates do not exceed established thresholds, known as *de minimis* limits. Under these rules, construction emissions from the Proposed Project or alternatives would be considered insignificant if they were to be less than *de minimis* limits, and as such would be considered to have no significant impact on existing air quality in the area. Due to the nature of this project, only construction *de minimis* levels are applicable if such limits have been established.

In cases where emissions exceed *de minimis* thresholds, emissions from the Proposed Project or alternatives are potentially significant and the local agencies cannot proceed with approval of the Proposed Project or alternatives on the basis of a negative declaration of impact. The Proposed Project or alternatives may then have to implement mitigation measures to reduce impacts to a level acceptable by the agency.

3.3.3.4 Conformity

General conformity requirements were adopted by Congress as part of the CAA Amendments of 1990, and were implemented by U.S. EPA regulations in 1993. General conformity requires that all federal actions must “conform” with the State Implementation Plan (SIP). U.S. EPA regulations exempt projects in nonattainment areas from general conformity requirements if the projected emissions do not exceed specified *de minimis* levels which are based on a region’s specific nonattainment classification. The *de minimis* thresholds for SSAB and MDAB are presented in Table 3.3-6 and are based on the federal designation of the particular region.

If the projected emissions for a proposed emission source are shown to be less than the *de minimis* thresholds, then the impact for NEPA evaluation may be presumed to be less than significant and exempt from conformity. For areas that are considered to be attainment for given pollutants, a *de minimis* threshold does not exist. For these areas, the non-attainment *de minimis* threshold can be used for significance determination under NEPA guidelines. If calculated emissions from project related activities exceeded *de minimis* thresholds, IID would be required by the General Conformity Rule to implement mitigation measures. Calculated emissions are compared to *de minimis* threshold levels in Section 3.3.4 of this EIR.

Table 3.3-6
***De Minimis* Emission Thresholds For Conformity**

Air Basin (County; Agency)		Pollutant			
		CO	ROC ^{a,b}	NO _x ^a	PM ₁₀
SSAB (West Riverside County; SCAQMD)	<i>De minimis</i> emissions (tons per year)	N/A	25	25	70
SSAB (Imperial County; ICAPCD)	<i>De minimis</i> emissions (tons per year)	N/A	100	100	100
MDAB (East Riverside County; MDAQMD)	<i>De minimis</i> emissions (tons per year)	N/A	N/A	N/A	N/A

^a Ozone precursor compounds – attainment status determined by ozone classification.

^b ROC – Reactive organic compounds; equivalent to volatile organic compound (VOC).

N/A – Conformity threshold is not applicable – region is federally designated unclassified/attainment.

3.3.3.5 State Significance Criteria

Individual air quality management districts are responsible, under CEQA, for interpreting thresholds of significance for emissions. CEQA guidelines give some latitude in regards to levels of significance and rely on interpretation and implementation by local air quality management districts. Emission threshold levels that are considered significant can vary between agencies. In addition, it is accepted by many agencies that operational emissions are different in nature to construction emissions. As a result, some districts set construction levels of significance higher than normal operational levels under the assumption that construction emissions are short term in nature. The operational phase of the Proposed Project and alternatives would not produce any significant emissions and, therefore, construction emissions values, when established, would be the only threshold values applicable.

Each of the three local air quality control districts that are associated with the Proposed Project and alternatives were contacted to verify specific significant threshold levels and to determine if the districts had established specific construction thresholds. Table 3.3-7 presents the SCAQMD, MDAQMD, and ICAPCD significance thresholds applicable to the Proposed Project.

Table 3.3-7
Air Pollution Control District
CEQA Significance Impact Emission Thresholds (Construction)

Air Pollution Control District		Pollutant				
		CO	ROC	NO _x	SO _x	PM ₁₀
SCAQMD	tons per year	99	10	10	27	27
	tons per quarter	24.75	2.5	2.5	6.75	6.75
	pound per day	550	75	100	150	150
MDAQMD	tons per year	100	25	25	25	15
	pound per day	548	137	137	137	82
ICAPCD	tons per year	99	10	10	27	27
	pound per day	550*	75*	100*	150*	150*

Source: SCAQMD 2002; MDAQMD 2004; ICAPCD 2004

* ICAPCD is developing a CEQA handbook, which will have the same thresholds as SCAQMD when published (Romero 2004).

3.3.4 PROJECT EMISSIONS

During construction of the Proposed Project and alternatives, vehicles and internal combustion powered equipment such as graders, excavators, dozers, scrapers, tractors, water trucks, tractors, and associated equipment would generate exhaust emissions of CO, NO_x, SO₂, and PM₁₀. These emissions are referred to as “tailpipe emissions” since they are directly related to the combustion of petroleum required to operate the equipment at the sites.

PM₁₀ would also be generated as fugitive dust emissions from earth clearing and grading, and vehicle traffic at the sites of activity. Fugitive dust represents the particles of dust generated and introduced into the atmosphere that do not readily fall back to the ground due to their size or mass (including PM₁₀). Although fugitive dust related to construction activities is temporary in nature, the resulting airborne particulate matter may have a measurable impact on the air quality

in the local region of the construction area in question. Fugitive dust emissions are variable depending on the construction schedules, activities being performed at the site, and the site location relative to paved access roads. In addition, soil conditions and meteorological conditions also influence the creation and dispersal of fugitive dust.

Emissions related to the Proposed Project and alternatives would be short-term in duration and only last during the construction phase. Long-term operation and maintenance of electrical transmission lines would not produce significant impacts to air quality in the region.

The Proposed Project and alternatives emissions were estimated using established methodologies; emission factors approved by federal, state, and local agencies; projected construction activities; equipment use projections; and construction schedules.

3.3.4.1 Construction Emissions

The Proposed Project and alternatives would require mobilization of a variety of equipment and personnel in order to complete the various construction or reconducting related tasks. Activities necessary for the construction of the Proposed Project, and alternatives include site surveying, environmental compliance monitoring, site access layout, material staging, and foundation excavation and installation. Equipment that relies on the combustion of fossil fuel is necessary for each of the tasks to complete construction. As such, the emission of criteria pollutants is a direct consequence of project construction.

Construction related emissions were calculated for each of the alternatives based on construction schedules and construction related activities presented in Section 2.0 of this EIR. The information in this section provides the input parameters used to calculate impacts to air quality by selected alternatives.

Emission factors used in the tailpipe emission calculations are based on emission factors selected from CARB's EMFAC2002 emissions model, federal Tier 1 emission limits, and the SCAQMD CEQA Air Quality Handbook (SCAQMD 1993). Emission factors used to determine fugitive dust emissions were selected from SCAQMD (1993) and EPA's Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources -AP-42 (EPA 2003). Conservative estimations were used to produce a "worst case" construction emission scenario for comparison against district significance criteria. Project emission calculations, including fugitive emissions, are based on the above references and are available upon request.

3.3.4.2 Construction Related Fugitive Dust

Clearing, grading, excavating, using heavy equipment on unpaved surfaces, and loading/unloading of trucks will create fugitive dust at the specific construction points. Reasonably available control measures will be implemented to reduce construction related fugitive dust. These measures include the use of chemical dust suppressants to stabilize exposed surfaces impacted by construction activities. Upon completion of construction activities at each power pole site, natural conditions will be restored and fugitive dust emissions will match those that existed prior to project activities.

Construction related fugitive dust generated by the construction of the Proposed Project and alternatives were estimated using guidelines and emission factors established by the SCAQMD (SCAQMD 1993). Several assumptions were made in order to estimate construction related fugitive dust. The assumptions are as follows:

- The expected number of towers is 3.8 per mile and a temporary expected total exposed graded surface per power pole is approximately 2 acres. The total temporary exposed graded surface due to power pole construction is 7.6 acres/mile.
- Exposed storage piles will not permanently exist at the power pole sites. Subsurface material would be used to restore the site to natural contours. Excess material would be transported off-site by the contractor and properly disposed.
- Pulling and tensioning sites will be located approximately every 2 miles. Each stringing and pulling tensioning site will disturb approximately 1 acre. The average disturbance due to pulling and tensioning would be approximately 0.5 acre/mile.

Based on the assumptions presented above, construction related fugitive emissions were calculated for each of the alternatives.

3.3.4.3 Transportation Related Fugitive Dust

Access roads of existing adjacent transmission lines would provide principle access to the construction areas of the Proposed Project and alternatives. The use of existing maintenance roads within existing transmission lines right-of-way would minimize potential impacts associated with new access road construction. Numerous locations along paved roadways would provide access to and from existing roads in the construction site areas. Consequently, reduction in the impacts of fugitive dust would be accomplished by using paved roads to the greatest extent possible to minimize unpaved road travel. Potential impacts related to access would be reduced further by using crew transport vehicles that would pick up construction personnel off-site, thereby greatly minimizing vehicular traffic.

Fugitive dust emission factors from vehicle transport over the unpaved access roads are discussed in U.S. EPA AP-42, Section 13.2.2, Unpaved Roads. AP-42 emission factors provide a very conservative estimate of fugitive dust emissions. Transportation related fugitive dust is the primary source of PM₁₀ emissions during the construction of the Project and alternatives, and as such, reasonably available control measures will be implemented to reduce these emissions. Emission reduction measures include a vehicle speed limit of 15 mph, and the use of approved chemical dust suppressants on unpaved roads. AP-42 cites 80 percent control efficiency for PM₁₀ on unpaved roads when chemical suppression is properly applied and maintained.

Fugitive dust emission calculations related to vehicle travel are based on the following assumptions:

- All of the mitigation measures described in Section 3.3.5 would be implemented;
- Personnel transport vehicles would only travel one time in and one time out on any given day;
- Vehicle use on unpaved roadways would be kept to a practical minimum.

Based on the assumptions presented above, transportation related fugitive emissions were calculated for each of the alternatives.

3.3.5 IMPACTS AND MITIGATION

Impacts to regional air quality from the Proposed Project and alternatives were calculated based on assumptions that the only appreciable impacts will be construction related and that operational impacts from a transmission line are negligible. These assumptions are consistent with similar projects throughout California. Calculated emissions were then compared to *de minimis* thresholds to determine if the Proposed Project and alternatives emissions presented a significant impact to local air quality. Significance thresholds are published as annual emission rates (tons per year) by U.S. EPA while air quality control districts publish significance thresholds in average pounds/day or tons/quarter limits. Project emissions are presented in this document as both annualized, quarterly, and daily rates for the purpose of comparison with federal and district standards. Mitigation measures are presented based on significance findings. Implementation of the recommended mitigation measures will reduce impacts to the extent practical.

3.3.5.1 Proposed Project Impacts and Mitigation Measures

This section identifies the potentially significant adverse impacts and required mitigation measures for the Proposed Project. In addition, as described in Sections 1 and 2, in response to comments received on the Draft EIS/EIR, a minor variation to the Proposed Project was developed (referred to as Variation PP1). Variation PP1 would remain in the same general alignment as the Proposed Project but would be shifted south approximately 150 feet into SCE's existing and approved PVD2 right-of-way. Therefore, unless noted below, the air quality impacts of Variation PP1 would be similar to those identified for the Proposed Project.

Air Quality Impact 1: *Construction of the Proposed Project would result in significant exhaust and fugitive dust emissions.*

As shown in Tables 3.3-8A and 3.3-8B, mitigated pollutant emissions produced during the construction of the Proposed Project in the MDAQMD portion and SCAQMD portion, respectively, would exceed MDAQMD and SCAQMD significant thresholds for daily emissions of NO_x. However, the Proposed Project annual construction emissions would not exceed federal *de minimus* thresholds established by the General Conformity rule. These conclusions assume that the practical and reasonable mitigation measures presented below would be implemented during the construction of the Proposed Project. These measures will reduce emissions of CO, NO_x, VOC, and PM₁₀ to the extent practical for a project of this nature.

**Table 3.3-8A
Proposed Project
Summary of Emissions in MDAQMD Portion**

Project Emissions					
Mitigated Emissions	Emissions				
	CO	ROG	NO _x	SO _x	PM ₁₀
Tailpipe Emissions (max. lb/day)	187	30	245	19	12
Fugitive PM ₁₀ Emissions (max. lb/day)	---	---	---	---	37
Total Construction Emissions (max. lb/day)	187	30	245	19	49
Total Construction Emissions (tpy equivalent)	15	2	20	2	4

**Table 3.3-8A
Proposed Project
Summary of Emissions in MDAQMD Portion**

Project Emissions					
Compare to District Significance Thresholds:					
	Emissions (lb/day)				
	CO	ROC	NO_x	SO_x	PM₁₀
MDAQMD significant impact thresholds	548	137	137	137	82
Total Construction Emissions (max. lb/day)	187	30	245	19	49
Significant?	No	No	Yes	No	No
Compare to Federal <i>De Minimis</i> Thresholds:					
	Emissions (tpy)				
	CO	ROC	NO_x	SO_x	PM₁₀
Eastern Riverside County (MDAQMD) <i>de minimis</i> and NEPA impact thresholds	N/A	N/A	N/A	N/A	N/A
Total Construction Emissions (tpy equivalent)	15	2	20	2	4
Exceed Conformity Thresholds?	N/A	N/A	N/A	N/A	N/A

N/A: Not applicable; area is federally attainment for all pollutant standards.

**Table 3.3-8B
Proposed Project
Summary of Project Emissions in SCAQMD Portion**

Summary of Project Emissions:					
Mitigated Emissions	Emissions				
	CO	ROG	NO_x	SO_x	PM₁₀
Tailpipe Emissions (max. lb/day)	221	35	280	23	15
Fugitive PM ₁₀ Emissions (max. lb/day)	---	---	---	---	43
Total Construction Emissions (max. lb/day)	221	35	280	23	58
Total Construction Emissions (tpy equivalent)	15	2	20	2	5
Compare to District Significance Thresholds:					
	Emissions (lb/day)				
	CO	ROG	NO_x	SO_x	PM₁₀
SCAQMD significant impact thresholds	550	75	100	150	150
Total Construction Emissions (max. lb/day)	221	35	280	23	58
Significant?	No	No	Yes	No	No
Compare to Federal <i>De Minimis</i> Thresholds:					
	Emissions (tpy)				
	CO	ROG	NO_x	SO_x	PM₁₀
Western Riverside County (SCAQMD; SSAB) <i>de minimis</i> and NEPA impact thresholds	N/A	25	25	N/A	70
Total Construction Emissions (tpy equivalent)	15	2	20	2	5
Exceed Conformity Thresholds?	N/A	No	No	N/A	No

Air Quality Impact 1 Mitigation: *The following mitigation measures would be implemented during the construction of the Proposed Project and Variation PP1 to reduce the exhaust emissions of CO, NO_x, VOC, SO_x, and PM₁₀:*

- Heavy duty off road diesel engines over 50 horsepower will meet Tier I ARB/EPA standards for offroad equipment and will be properly tuned and maintained to manufacturers' specifications to ensure minimum emissions under normal operations;

- Construction vehicles will have 1996 and newer model engines;
- Diesel fuel for vehicles and equipment operating within the boundaries of the SCAQMD will be purchased in the SCAQMD (SCAQMD adopted a 15 ppmw sulfur limit for diesel fuel sold in the District effective January 2005).
- Visible emissions from all heavy duty off road diesel equipment shall not exceed 20 percent opacity for more than three minutes in any hour of operation;
- A comprehensive inventory (i.e. make, model, year, emission rating) of all heavy-duty off-road equipment (50 horsepower or greater) that will be used an aggregate of 40 hours per week or more during the duration of the construction project will be submitted to the Districts.

Due to the remote locations, dry desert environment, and unique wildlife hazard issues specific to the project region, a combination of both water and chemical dust suppression will be utilized. Controlling dust in the desert is further complicated by the fact that water is an attractant to desert wildlife including the endangered Desert Tortoise. The use of petroleum and related products create potential soil and water pollution in sensitive desert environments.

Water will be used for dust suppression when reasonably available and when water will not create wildlife hazard in construction zones. In cases where water is not feasible, chemical dust suppression methods, such as organic polymers or wood derivative compounds, will be implemented when dust suppression is warranted. These compounds will be applied as needed but are expected to require limited application.

The following mitigation measures would be implemented for the Proposed Project to reduce emission fugitive dust (including PM_{10}):

- Apply water or chemical dust suppressants to unstabilized disturbed areas and/or unpaved roadways in sufficient quantity and frequency to maintain a stabilized surface.
- Water or water-based chemical additives will be used in such quantities to control dust on areas with extensive traffic including unpaved access roads. Water, organic polymers, lignin compounds, or conifer resin compounds will be used depending on availability, cost, and soil type.
- Surfaces permanently disturbed by construction activities will be covered or treated with a dust suppressant within five days of the completion of activities at each site of disturbance.
- Vehicle speeds on unpaved roadways will be restricted to 15 mph.
- Vehicles hauling dirt will be covered with tarp or other means.
- Site construction workers will be staged off-site at or near paved intersections and workers will be shuttled in crew vehicles to construction sites.

3.3.5.2 Alternative A Impacts and Mitigation Measures

Air quality impacts associated with Alternative A and Variation A1 are virtually identical to those identified above for the Proposed Project, and the mitigation measures identified for the Proposed Project would also be appropriate for Alternative A impacts.

3.3.5.3 Alternative B Impacts and Mitigation Measures

As shown in Tables 3.3-9A and 3.3-9B, in the MDAQMD portion and ICAPCD portion, respectively, mitigated pollutant emissions produced during the construction of Alternative B would not exceed MDAQMD significant thresholds for CO, NO_x, ROG, SO_x, and PM₁₀. Pollutant emissions would not exceed ICAPCD significant thresholds for CO, ROG, SO_x, and PM₁₀, but would be significant for NO_x. Mitigation measures identical to the mitigation measures recommended for the Proposed Project are proposed for this alternative.

**Revised Table 3.3-9A
Summary of Alternative B Emissions in MDAQMD Portion**

Project Emissions					
Mitigated Emissions	Emissions				
	CO	ROG	NO_x	SO_x	PM₁₀
Tailpipe Emissions (max. lb/day)	48	8	64	5	3
Fugitive PM ₁₀ Emissions (max. lb/day)	---	---	---	---	10
Total Construction Emissions (max. lb/day)	48	8	64	5	13
Total Construction Emissions (tpy equivalent)	4	1	5	0	1
Compare to District Significance Thresholds:					
	Emissions (lb/day)				
	CO	ROC	NO_x	SO_x	PM₁₀
MDAQMD significant impact thresholds	548	137	137	137	82
Total Construction Emissions (max. lb/day)	48	8	64	5	13
Significant?	No	No	No	No	No
Compare to Federal <i>De Minimis</i> Thresholds:					
	Emissions (tpy)				
	CO	ROC	NO_x	SO_x	PM₁₀
Eastern Riverside County (MDAQMD) <i>de minimis</i> and NEPA impact thresholds	N/A	N/A	N/A	N/A	N/A
Total Construction Emissions (tpy equivalent)	4	1	5	0	1
Exceed Conformity Thresholds?	N/A	N/A	N/A	N/A	N/A

N/A: Not applicable; area is federally attainment for all pollutant standards.

**Revised Table 3.3-9B
Summary of Alternative B Emissions in ICAPCD Portion**

Summary of Project Emissions:					
Mitigated Emissions	Emissions				
	CO	ROG	NO_x	SO_x	PM₁₀
Tailpipe Emissions (max. lb/day)	225	36	295	23	15
Fugitive PM ₁₀ Emissions (max. lb/day)					44
Total Construction Emissions (max. lb/day)	225	36	295	23	59
Total Construction Emissions (tpy equivalent)	19	3	24	2	5
Compare to District Significance Thresholds:					
	Emissions (lb/day)				
	CO	ROG	NO_x	SO_x	PM₁₀
ICAPCD significant impact thresholds*	550	75	100	150	150
Total Construction Emissions (max. lb/day)	225	36	295	23	59
Significant?	No	No	Yes	No	No

Revised Table 3.3-9B
Summary of Alternative B Emissions in ICAPCD Portion

Compare to Federal <i>De Minimis</i> Thresholds:					
	Emissions (tpy)				
	CO	ROG	NO_x	SO_x	PM₁₀
Imperial County (ICAPCD; SSAB) <i>de minimis</i> and NEPA impact thresholds	N/A	100	100	N/A	100
Total Construction Emissions (tpy equivalent)	19	3	24	2	5
Exceed Conformity Thresholds?	N/A	No	No	N/A	No

ICAPCD is developing a CEQA handbook, which will have the same thresholds as SCAQMD when published (Romero 2004).

3.3.5.4 Alternative C Impacts and Mitigation Measures

Air Quality Impact C1: *Construction of Alternative C would result in significant NO_x emissions.*

As shown in Tables 3.3-10A and 3.3-10B, mitigated pollutant emissions in the MDAQMD portion and ICAPCD portion, respectively, produced during the construction of the Alternative C would exceed MDAQMD and SCAQMD significant thresholds for NO_x. Alternative C construction emissions would not exceed federal *de minimis* thresholds established by the General Conformity rule in any jurisdiction. Mitigation measures identical to the mitigation measures recommended for the Proposed Project are proposed for this alternative.

Table 3.3-10A
Summary of Proposed Project Emissions in MDAQMD Portion

Project Emissions					
Mitigated Emissions	Emissions				
	CO	ROG	NO_x	SO_x	PM₁₀
Tailpipe Emissions (max. lb/day)	183	29	240	19	12
Fugitive PM ₁₀ Emissions (max. lb/day)	---	---	---	---	36
Total Construction Emissions (max. lb/day)	183	29	240	19	48
Total Construction Emissions (tpy equivalent)	15	2	19	1	4
Compare to District Significance Thresholds:					
	Emissions (lb/day)				
	CO	ROC	NO_x	SO_x	PM₁₀
MDAQMD significant impact thresholds	548	137	137	137	82
Total Construction Emissions (max. lb/day)	183	29	240	19	48
Significant?	No	No	Yes	No	No
Compare to Federal <i>De Minimis</i> Thresholds:					
	Emissions (tpy)				
	CO	ROC	NO_x	SO_x	PM₁₀
Eastern Riverside County (MDAQMD) <i>de minimis</i> and NEPA impact thresholds	N/A	N/A	N/A	N/A	N/A
Total Construction Emissions (tpy equivalent)	15	2	19	1	4
Exceed Conformity Thresholds?	N/A	N/A	N/A	N/A	N/A

N/A: Not applicable; area is federally attainment for all pollutant standards.

Table 3.3-10B
Summary of Alternative C Emissions in SCAQMD Portion

Summary of Project Emissions:					
Mitigated Emissions	Emissions				
	CO	ROG	NO_x	SO_x	PM₁₀
Tailpipe Emissions (max. lb/day)	221	35	290	23	15
Fugitive PM ₁₀ Emissions (max. lb/day)					43
Total Construction Emissions (max. lb/day)	221	35	290	23	58
Total Construction Emissions (tpy equivalent)	18	3	23	2	5
Compare to District Significance Thresholds:					
	Emissions (lb/day)				
	CO	ROG	NO_x	SO_x	PM₁₀
SCAQMD significant impact thresholds	550	75	100	150	150
Total Construction Emissions (max. lb/day)	221	35	290	23	58
Significant?	No	No	Yes	No	No
Compare to Federal <i>De Minimis</i> Thresholds:					
	Emissions (tpy)				
	CO	ROG	NO_x	SO_x	PM₁₀
Western Riverside County (SCAQMD; SSAB) <i>de minimis</i> and NEPA impact thresholds	N/A	25	25	N/A	70
Total Construction Emissions (tpy equivalent)	18	3	23	2	5
Exceed Conformity Thresholds?	N/A	No	No	N/A	No

3.3.5.5 No Project Alternative Impacts and Mitigation

Under the No Project Alternative, the Project would not be constructed, eliminating any air quality impacts due to the construction of the project. Without construction of the Project, however, there would still be a need for increased electrical transmission capacity. A rapidly increasing population in Southern California generates the need for increased electrical transmission capacity. Several major power generation facilities in the region, including the Blythe Energy Project, have been recently constructed or are currently under construction. New electrical transmission lines or major upgrades to existing lines will be required to carry the electrical power currently being generated by market plants to the Southern California populations. The resultant upgrades or new construction would produce impacts similar to the impacts of the proposed alternatives of the Project.

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